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| 10/511,062 | 10/12/2004 | Masatoshi Kitagawa | 82478-9100 | 2245 |

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| EXAMINER | |
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| WALFORD, NATALIE K | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/511,062 | KITAGAWA ET AL. | |
| | Examiner | Art Unit | |
| | Natalie K. Walford | 2879 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibata et al. (JP 11-120919).

Regarding claim 1, Shibata discloses a plasma display panel in figures 1 and 3 in which a plurality of pairs of first and second electrodes (items 1 and 2) are disposed on a first substrate (item 5) so as to be parallel to each other, a plurality of third electrodes (item 3) are disposed on a second substrate (item 8), and main parts of a plurality of barrier ribs (item 13) are disposed between adjacent third electrodes, the third electrodes being orthogonal to a longitudinal direction of display electrodes each of which consists of a pair of the first and second electrodes (see FIGS. 1 and 3), wherein a plurality of fourth electrodes (item 9) are fixed to the barrier ribs or areas of a surface of the first substrate facing the barrier ribs so as to be at least in vicinities of areas between adjacent display electrode (see FIGS. 1 and 3)s, the fourth electrodes being

electrically exposed to discharge spaces which are defined by the barrier ribs (see FIGS. 1 and 3).

Regarding claim 2, Shibata discloses the plasma display panel of claim 1, wherein the fourth electrodes are at a first distance from the first substrate (see FIG. 4), and fixed to the barrier ribs in such a manner as to be inserted in the barrier ribs or disposed on surfaces of the barrier ribs (see FIG. 4, items 9 and 13).

Regarding claim 3, Shibata discloses the plasma display panel of claim 2, wherein the fourth electrodes are disposed on top of the barrier ribs (see FIG. 4, items 9 and 13).

Regarding claim 4, Shibata discloses the plasma display panel of claim 2, further comprising: a plurality of fifth electrodes (item 9), which are inserted in the barrier ribs at a second distance from the first substrate.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (JP 11-120919) in view of Yoshida et al. (US 6,489,722).

Regarding claim 5, Shibata discloses the plasma display panel of claim 4, wherein the fourth electrodes are fixed to the main parts of the barrier ribs (see FIG. 4), but does not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the

barrier ribs, are substantially orthogonal to the third electrodes, and the fifth electrodes are fixed to the sub-parts of the barrier ribs, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced. The Examiner notes that Shibata teaches that it is known to have electrodes fixed to barrier ribs, so one with ordinary skill in the art would have easily contemplated having electrodes fixed to the sub-parts of the barrier ribs, as shown by Yoshida.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Shibata's invention to sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, and the fifth electrodes are fixed to the sub-parts of the barrier ribs as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 6, Shibata discloses the plasma display panel of any of claim 1, but does not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Shibata's invention to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 15, Shibata discloses the plasma display panel of claim 2, but does not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Shibata's invention to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 16, Shibata discloses the plasma display panel of claim 3, but does not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1

that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Shibata's invention to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 17, Shibata discloses the plasma display panel of claim 4, but does not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Shibata's invention to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (JP 11-120919) in view of Sato et al. (US 4,423,356).

Regarding claim 7, Shibata discloses a plasma display device ion figures 1 and 3 in which a plurality of pairs of first and second electrodes (items 1 and 2) are disposed on a first substrate (item 5) so as to be parallel to each other, a plurality of third electrodes (item 3) are disposed on a second substrate (item 8), and main parts of a plurality of barrier ribs (item 13) are disposed between adjacent third electrodes, the third electrodes being orthogonal to a longitudinal direction of display electrodes each of which consists of a pair of the first and second electrodes (see FIGS. 1 and 3), wherein a plurality of fourth electrodes (items 9m-9o) are fixed to the barrier ribs so as to be at least in vicinities of areas between adjacent display electrodes (see FIG. 4), the fourth electrodes being electrically exposed to discharge spaces which are defined by the barrier ribs, but does not expressly disclose that the plasma display device includes a driving circuit for applying a voltage to the fourth electrodes or for earthing the fourth electrodes, as claimed by Applicant. Sato is cited to show a plasma display device in figure 2 with fourth electrodes (item 11) that are connected to a driving circuit (column 3, lines 47-51). Sato teaches that by connecting these electrodes to a driving circuit that the fourth electrodes help cause charges to move in order to reestablish the proper potential (column 3, lines 65-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Shibata's invention to include the plasma display device includes a driving circuit for applying a voltage to the fourth electrodes or for earthing the fourth electrodes as suggested by Sato for reestablishing proper potential.

Regarding claim 8, the combined reference of Shibata and Sato disclose the plasma display device of claim 7, wherein the driving circuit applies a positive voltage to the fourth electrodes (Sato; column 4, lines 38-47).

Regarding claim 9, the combined reference of Shibata and Sato disclose the plasma display device of claim 8, wherein the fourth electrodes are at a first distance from the first substrate (Shibata; see FIG. 4), and fixed to the barrier ribs in such a manner as to be inserted in the barrier ribs or disposed on surfaces of the barrier ribs (Shibata; see FIG. 4, items 9 and 13).

Regarding claim 10, the combined reference of Shibata and Sato disclose the plasma display device of claim 9, wherein the fourth electrodes are disposed on top of the barrier ribs (see FIG. 4, items 9 and 13).

Regarding claim 11, the combined reference of Shibata and Sato disclose the plasma display device of claim 10, wherein the driving circuit applies a first voltage pulse and a second voltage pulse to the first electrodes and the second electrodes respectively, and additionally applies a third voltage pulse to the fourth electrodes (Sato; see FIG. 2).

Regarding claim 12, the combined reference of Shibata and Sato disclose the plasma display device of claim 11, further comprising: a plurality of fifth electrodes (Sato; items 9m-9o) which are inserted in the barrier ribs at a second distance from the first substrate (Sato; see FIG. 4), wherein the driving circuit applies a fourth voltage pulse to the fifth electrodes when outputting the first voltage pulse and the second voltage pulse at the same time (Shibata; see FIG. 2).

Claims 13-14 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (JP 11-120919) in view of Sato et al. (US 4,423,356) in further view of Yoshida et al. (US 6,489,722).

Regarding claim 13, the combined reference of Shibata and Sato disclose the plasma display device of claim 12, wherein the fourth electrodes are fixed to the main parts of the barrier ribs (Shibata; see FIG. 4), but does not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, and the fifth electrodes are fixed to the sub-parts of the barrier ribs, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced. The Examiner notes that Shibata teaches that it is known to have electrodes fixed to barrier ribs, so one with ordinary skill in the art would have easily contemplated having electrodes fixed to the sub-parts of the barrier ribs, as shown by Yoshida.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined reference of Shibata and Sato to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, and the fifth electrodes are fixed to the sub-parts of the barrier ribs as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 14, the combined reference of Shibata and Sato disclose the plasma display device of claim 7, but do not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined reference of Shibata and Sato to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 18, the combined reference of Shibata and Sato disclose the plasma display device of claim 8, but do not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined reference of Shibata and Sato to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 19, the combined reference of Shibata and Sato disclose the plasma display device of claim 9, but do not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined reference of Shibata and Sato to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 20, the combined reference of Shibata and Sato disclose the plasma display device of claim 10, but do not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3).

However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined reference of Shibata and Sato to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

Regarding claim 21, the combined reference of Shibata and Sato disclose the plasma display device of claim 11, but do not expressly disclose that sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes, as claimed by Applicant. Shibata only shows the barrier ribs in one direction (see FIG. 3). However, Yoshida shows in figure 1 that the barrier ribs (item 29) go in two directions (items 291 and 292), and one is orthogonal to third electrodes (item A). Yoshida teaches that the discharge gas space is divided at an appropriate position in the column direction (column 4, lines 38-43), flicker is reduced, area of cross talk is decreased, and display fluctuation is reduced.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined reference of Shibata and Sato to include sub-parts of the barrier ribs, which bridge adjacent main parts of the barrier ribs, are substantially orthogonal to the third electrodes as suggested by Yoshida for reducing flicker, decreasing cross talk, and reducing display fluctuation.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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6/25/07

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